Some Implications of Issues in Social Dialectology for Linguistic Reconstruction*

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1. Introduction

1.1. There has long been a tendency in work on lingusitic reconstruction, in particular in the field of Indo-European studies, to frame questions relating to properties of prehistoric grammars solely in terms of the particular constituents, construction types and categories that occur in the descendant historical languages. So, for any construct, construction or category that occurs in one/some of the extant languages of a family, scholars typically seek to establish whether it existed in the parent language; similarly, if different forms/structures have corresponding functions in related languages, scholars commonly attempt to determine which of the alternatives is more archaic, presuming that it will most closely reflect the prehistoric situation. Are plain velars, ablative case endings, future tense forms, morphological infinitives, relative pronouns, subordinate clauses reconstructible for proto-Indo-European? Questions of this sort have occupied the attention of Indo-Europeanists for more than a century.[1]

The result of this methodological bias has often been to limit the structural parameters within which the general character of prehistoric grammars might be conceived, and to subtlely distort the role of the principle of uniformitarianism in reconstruction. That well-established principle demands that prehistoric grammars manifest only those structural properties occurring in known languages; it does not, however, presume that a prehistoric grammar be expected to share structural/typological properties with the grammars of its particular attested descendants.

In calling attention to this methodological bias, I do not intend to contest the self-evident fact that the actual grammars of attested languages must serve as the basic data for reconstruction; my purpose is rather to emphasize the fact that reference to information of all sorts about the nature of linguistic systems can prove relevant in the construction of our hypotheses about the character of prehistoric grammars by offering new perspectives/ contexts in which to interpret those basic data.

In this regard, consider how reference to the discoveries of linguistic typology has informed recent investigations into the nature of the early Indo-European phonological system. Some of the most enlightening and encouraging work of the last decade in this area has been generated by hypotheses (grouped under the general rubric "the glottalic theory") that attribute to prehistoric Indo-European an obstruent system that, though natural and well represented among the world's languages, is nowhere attested in the Indo-European language family.[2]

1.2. Important research of the last two decades which concentrates on language in its social context supports the claim that correlations obtain between certain structural properties of language and the sociolinguistic context in which language is used (and undergoes change). For the most part,

however, this interesting work in social dialectology has exerted little influence among linguists concerned with the reconstruction of prehistoric grammars and with the identification of actual processes which account for the historical grammars which serve as the bases for our hypotheses about prototype languages. It is my purpose in this paper to call attention to the potential relevance of certain aspects of this research for work in linguistic reconstruction. Specifically, it is suggested here that reference to the probable sociolinguistic circumstances in which early Indo-European was originally spoken and subsequently changed might offer insights relevant to some of the more intransigent problems in Indo-European historical grammar, particularly in the area of syntax.

Section 1 of the paper considers the potential relevance for reconstruction of recent investigations supporting a distinction between autonomous and non-autonomous language; section 2 considers some implications of recent studies of language shift in progress in multilingual speech communities.

2. Autonomous versus non-autonomous language

2.1. Based on a study of English social dialects, Basil Bernstein (1974) introduced into the sociological literature the notions "restricted code" and "elaborated code" for the speech styles of British working class and middle class young men, respectively. (The more recent term variety is surely to be preferred to speech style for Bernstein's categories, as they refer to social dialects, not socially determined registers.) As the result of subsequent research by scholars investigating other aspects of the relationship between linguistic structure and social context, this early and somewhat unfortunate dichotomy between elaborated and restricted codes has been, for the most part, superseded by a distinction between autonomous language and non-autonomous language (e.g., Kay 1977).

The newer terminology emphasizes what is essentially a typological difference between varieties of language typical of oral-mode/context-sensitive communication, on the one hand, and text-mode/context-free communication, on the other. Whereas Bernstein's elaborated/restricted code distinction was meant to reflect a relationship between linguistic structure and the linguistic capacities of particular, socially definable groups of language users, the autonomous/non-autonomous distinction properly calls attention to the relationship between linguistic structure and the communicative context and function of language itself. It is also now clear that text-mode varieties of language do not replace oral mode varieties in some inevitable evolutionary progression, as assumed in some early discussions of this phenomenon; rather, "the two are superimposed upon and intertwined with each other" (Tannen 1982). In light of these additional considerations, sociolinguistic situations of the sort originally described by Bernstein demand a more complex analysis. It seems quite likely, for example, that at least some of the differences that he identified are properly to be understood to reflect the consequences of a sort of dialect contact phenomenon. While the everyday speech of the middle class youths might well manifest the consequences of extensive contact with the autonomous language of the standardized English grapholect (Haugen 1966, Ong 1982),[3] the speech of the working class youths would not.

The identification of the distinction (actually, the continuum) between autonomous and non-autonomous language has far-reaching consequences for linguistic typology. For, if communicative context in some way/degree shapes the formal properties of language, we should expect to see cross-linguistic and cross-varietal differences that correlate with the distinct functional demands of autonomous versus non-autonomous language. In fact, studies of creoles, enclave languages, and at least some languages of non-literate cultures tend to support the hypothesis that the grammars of languages/varieties which are restricted to use in context-sensitive situations share certain structural properties - properties which correspond in kind to those characteristic of oral-mode communication, in general?

A brief consideration of so-called "enclave languages" may serve as an instructive example at this point. In her 1985 dissertation, Julianne Maher establishes the notion enclave language. An enclave language is actually a variety (commonly, a dialect) of a language whose speakers are isolated in time and/or space from contact with speakers of a standard variety of that language which reigns/reigned as the language of the "establishment" and of literacy in another speech community. It is the native language of a group which does not represent the establishment in a multi-lingual community, and hence is used by the minority group only in domestic, singularly oral-mode contexts. Louisiana French is an example. Typically, most members of the linguistic minority in an enclave speech community are bilingual speakers of the enclave language and of the language of the establishment.

Maher identifies certain structural properties which are characteristic of enclave languages on a cross-linguistic basis. These enclave features include: phonologically invariant morphemes; analytic (as opposed to synthetic) forms/constructions; rigid word order; a focus on aspect in the verbal system; equivalent interrogative and relative forms/constructions; and inter-clause syntax characterized by adjoined (as opposed to embedded/incorporated) clauses. These properties generally differentiate the enclave varieties from their sister dialects, but cannot typically be attributed to influence from the contact (establishment) language. Hence, it appears that these shared structural characteristics must be associated with the sociolinguistic and functional properties shared by these languages. What is perhaps of even more general interest and relevance is the fact that many of the same structural properties identified as characteristic of enclave languages are among those generally associated with other non-autonomous/oral-code (as opposed to autonomous) linguistic systems.

Consider the possible relevance of these discoveries concerning the structural properties of language associated primarily with context-sensitive communication situations for the reconstruction of the grammars of prehistoric and preliterate speech communities. Is it not presumptuous, for example, to assume that the grammar of early Indo-European should, in some trivial way, have the "look" of a "typical" or "classical" Indo-European language, like Sanskrit or Greek? Is it not, in fact, possible (even, likely) that the grammar of the Indo-European speech community would exhibit structural properties of the sort commonly encountered in oral-code linguistic systems in general.

I should reemphasize here that this exhortation to practioners of linguistic reconstruction (in particular, to Indo-Europeanists) to expand the frames of reference deemed appropriate in our conjurings on prehistoric grammar (in particular, on early Indo-European grammar) in no way implies any demotion in importance of the structural facts of the extant languages. To be sure, a principal (perhaps, the principal) goal of reconstruction is a coherent and plausible diachronic account of the structural facts of the several grammars of the extant members of an alleged "family of languages", constructed in terms of some hypothesis about a unitary source. The exercise of reconstruction is, in effect, an attempt to make explicit the nature of the relationship that obtains among genetically associated languages through identification of the separate evolutionary routes connecting each of the extant grammars to their common prehistoric ancestor. The methodological principle at issue here is that our hypotheses about the source should be informed - to the degree possible - by any relevant facts about the nature of linguistic systems. For, as the validity of that hypothesis (i.e., the reconstruction) is strengthened, the quality of the diachronic account of the structural facts of the several reflections of that source must improve.

1.2. In the following paragraphs I propose to suggest some implications of the issues discussed in section 1.1. for the reconstruction of a particular aspect of early Indo-European grammar, specifically inter-clause syntax.

Most traditional scholarship on the subject of inter-clause syntax in Indo-European represents a search for comparative evidence to support the presence (or absence) of "subordinate clauses" in the parent language. As I have remarked elsewhere (Jeffers 1986), "it would only be a slight exaggeration to describe the history of the study of pIE inter-clause syntax as a series of attempts to answer the famous question "Gab es im Indogermanischen Nebensätze?""

Edward Hermann's 1895 article with that question as its title served as the starting point for discussions of inter-clause syntax in early Indo-European for decades. Hermann concluded that the comparative data offered no grounds for the reconstruction of morphological or lexical markers of subordination, a conclusion supported by many of the most distinguished Indo-Europeanists working in the first half of this century.[4] This conclusion had profound implications for the study of Indo-European syntax for decades. It will be useful here to quote somewhat extensively on this subject from my recent paper on methodology in syntactic reconstruction (Jeffers 1986).

> It is important to recognize that a profoundly important corollary was assumed to follow from the conclusion that morpho-syntactic markers of subordination are not reconstructible for the parent language - that corollary being that early IE syntactic structure was characterized by an almost absolute version of parataxis. If the grammar of prehistoric Indo-European cannot be shown to include subordinate constructions of the sort that typically occur in extant IE languages, then - the argument goes - pIE grammar must have been destitute of formal devices that mark syntactico-semantic relationships between clauses. Delbrück, in fact, asserts .... "that there was once a time in which only principal clauses

(Hauptsätze) existed" (1900:412). However, the very notion principal/main clause has meaning only with reference to some corresponding and particular notion of non-principal clause; though treated as universally applicable categories by Delbrück and his successors, references to these complementary notions clearly reflect an acquaintance with particularg grammars (the grammars of IE text languages) that were seen to manifest, though sometimes incorrectly, ... a particular structural dichotomy between so-called Haupt- and Nebensätze.[5]

In light of what we know about the structural properties of language associated with strictly oral-code modes of communication, we might reasonably add an alternative, or at least additional, context within which the facts about inter-clause syntax in early Indo-European might be reviewed. Recall that one of the typical features of enclave languages and of other language associated with context-sensitive, oral-mode communication situations is a system of inter-clause syntax characterized by adjunction, as opposed to embedding and/or incorporation. The term adjunction characterizes systems of inter-clause syntax in which the related clauses retain their internal structural integrity and surface structure autonomy, but are marked as as members of a larger syntactic structure by some morphological, lexical or syntactic device.[6]

Several recent papers (C. Lehmann 1980, Holland 1984, Jeffers 1986) call attention to the fact that a careful analysis of the surface syntactic structures of the most ancient representatives of Indo-European (Anatolian, and the varieties of Ancient Greek and Indo-Iranian encountered in the texts of the oral traditions) support the hypothesis that embedding/incorporation is not a feature of early Indo-European syntax. Jeffers 1986, for example, includes a review of the full range of situations in which a reflex of the Indo-European particle *yo plays some role in marking a relationship between two clauses. A few instructive examples drawn from that paper follow; these examples from Vedic Sanskrit correspond to relative, adverbial, and predicate complement constructions in the later languages. Note that in all cases, each of the two clauses maintains its internal structural integrity and surface structure autonomy.[7]

(1) adjoined relative.

yam bhadreṇa śavasā codayāsi prajāvatā radhasā/
Whom w/blessed w/might you quicken w/children w/wealth

te syāma (RV 1.94.15)
they may we be

(2) adjoined relative of purpose.

tat savitur vareṇyam bhargo devasya dhīmahi/
that of S. desirable glory of god we attain

dhiyo yo naḥ pracodayāt (RV 3.62.10)
thoughts our stimulates

"May we attain that desirable glory of the god S. which (so that it) may stimulate our thoughts."

(3) condition.

sadyaś cid yaḥ sahasrāṇi śatā dadan
someone who thousand 100 gives

nakir ditsantam ā minat
no one the-one-wanting-to-give (would) restrain

(4) cause.

acittī yat tava dharmā yuyopima/
unknowing bec. your law we have disturbed

mā nas tasmād enaso deva rīriṣaḥ (RV 7.89.5)
not us fr/that fr/sin god you harm

"Do not harm because of that sin, because unknowing(ly) we disturbed your law."

(5) ?result/purpose with inflected form.

indrāgnī yuvam su naḥ sahantā dāsatho rayim/
I & A you surely us mighty will give wealth

yena..... sāhiśīmahi (RV.10.1)
so that/whereby we may overcome

(6) result with lexical conjunction.

gṛhān gacha/ gṛhapatnī yathā asaḥ (RV 10.85.26)
house go mistress so that you may be

(7) predicate complement (precursor).

gṛṇe tad indra te śava upamaṁ devatātaye/
I praise this Indra your prowess highest for gods

yad dhaṁsi vṛtram ojasā (RV 8.62.8)
that you strike V. m/might

The question of the earliest function of the erstwhile particle *yo is of particular interest here. *yo is commonly referred to as the "relative particle" (see however Gonda 1954), but appears in Indo-European languages as 1)the stem of inflected relative words, 2)the stem of a wide variety of lexical conjunctions, 3)a clitic sentence connective in Hittite (see Watkins 1963) and also 4)in the genitive case ending *-syo.

The Hittite reflex of *yo is -ia (alternant -a).[8] This Hittite particle, which is generally referred to as a sentence connective, can be functionally distinguished from a distinct group of IE "sentence connectives" which occur clause initial or as clitics (i.e., *no, *so, *to, *e/o ; Hittite nu-, su-, ta-, Luvian a-/-a). The forms in this latter group function as discourse particles and simply move the narrative forward; they often occur sequentially in a string of four or five clauses. In sharp contrast, the Hittite form -ia/-a (which, as has been noted, is cognate with the stem of relative words and conjunctions of other IE languages) connects two clauses in which the described actions or states are intimately connected in time and space (i.e., where the clauses describe two components of a single situation) or where the connected clauses refer to parallel notions.[9]

The Hittite particle -ia/-a is clearly not a relative word. Likewise, although they are frequently termed relative conjunctions in the literature, the various conjunctions in other ancient IE languages formed on the stem *yo are not proper relatives. In fact, it is only in the cases where we see an inflected form of *yo (a relative pronoun/adjective) that coreference is a factor in the inter-clausal relationship;[10] and in these forms the semantic information relevant to coreference is carried by the case affixes whose "attachment" to *yo may well reflect a secondary reanalysis and restructuring, the details of which remain obscure.

In light of these and other related facts (see Jeffers 1986), a reconsideration of of the earliest function of the particle *yo seems to be in order. It appears that the one property common to all occurrences of the ancient particle *yo in the earliest texts - and which is therefore potentially reconstructible for early Indo-European - is its function as a marker of a relationship between two structurally autonomous clauses which must be interpreted as constituents of a larger syntactic construction, i.e., between a pair of adjoined clauses.[11] Note that this etymological analysis of *yo substantiates the syntactic evidence from early texts (exemplified in (1)-(7) above) supporting the hypothesis that early Indo-European grammar was characterized by, or at least comprehended, adjoined clauses as a feature of inter-clause syntax.

Consider now how this discussion demonstrates that reference to "external" but relevant facts about the nature of linguistic structure can serve to inform a reconstruction. Such reference may present an alternative context for the generation of hypotheses about the structural properties of the source language - (if you know that adjunction is something of a commonplace in language associated with context-sensitive situations, it becomes an obvious/possible candidate for status as a structural property of the language of a pre-literate speech community) - or, alternatively, it may offer "extra-familial" support for a relatively speculative hypothesis about the source language which is based on limited, ambiguous or otherwise difficult to interpret data in the extant languages - (the evidence for an early IE syntactic system with adjoined clauses is preserved in relic constructions in the earliest, pre-classical texts of the ancient IE languages; a diachronic account centered on this evidence is rendered less speculative/tentative, if considered with reference to types of syntactic systems not typical in the IE family, but relevant on other - usually typological grounds).

It follows from this discussion that much of the traditional and more recent work on inter-clause syntax in early Indo-European can be viewed as a misdirected effort. The preoccupation with a search for evidence supporting (or not supporting) the presence of typically Indo-European subordinate (especially, relative) clauses becomes a pointless exercise, because "by definition" it precludes from consideration any alternative systems for marking inter-clause relationships.[12]

3. Language change in the multi-lingual speech community

Historical linguists have traditionally made reference to two types of language change, internal and external. Internal change results from some structural disequilibrium within a language, which exerts pressure for change. External change results from outside influences, and language contact is commonly viewed as the "cause" of this sort of change.

Some students of language change, such as Schuchardt in the nineteenth century and Bloomfield in the twentieth, have held that language contact can have a profound effect on the structure of languages. However, Meillet is representative of most nineteenth and early twentieth century historical linguists (Indo-Europeanists, in particular) in the assertion that the influence of languages upon each other is seldom extensive, certainly not to the point of "mixed systems" that defy genetic classification. Sapir, of course, believed in the natural resistance of language to external influence, and Jesperson agrees with Whitney that the essential nature of language remains unaltered by contact with other languages. A most consistent theme, moreover, in almost all early discussions of language contact and language change is that syntax is the component of grammar most resistant to contact-induced change. Somewhat surprisingly, this assumption persists even in some contemporary investigations of language contact speech communities. Karttunen, for example, states that "syntax remains most resistant to change" in American Finnish (1977:183), even after detailing several significant syntactic replacements.[13]

In recent years, the emphasis of research on language contact has shifted away from retrospective analyses of borrowing to studies of the actual linguistic behavior of speakers in multilingual speech communities. Some studies concentrate on the social correlates of linguistic choices, especially in situations where a language shift is in progress (e.g., Gal 1979). Others investigate the implications for linguistic structure of bi- and multi-lingualism.

The results of research on the structural implications of bi- and multilingualism suggest a few things that must be taken into account by practicing reconstructionists. Since the publication of Weinreich's breakthrough study Languages in Contact (1953), it has been clear that the interference phenomena that are the product of language contact cannot always be predicted on the basis of the structural properties of the interfering language. It is often the case that a wholesale rearrangement of patterns may result from the intrusion of some new forms or patterns.

The recent work on enclave languages referred to in section 2.1 supports the claim that the sorts of innovations that affect languages in contact

situations can be profound and that they are not necessarily restricted to the neat incorporation of some "foreign element" into the inventory of forms and patterns of the borrowing language. Likewise, consider the extensive recent studies of creolization (e.g., Bickerton 1981, Sankoff 1980).

Alternatively, it appears that under certain sociolinguistic conditions adult speakers do not "(bring) forth ... novel devices for coping with a new language," but call upon "methods of dealing with ill-fitting material that were inherent in their native language .... they (deal) with masses of material in rational ways that they (bring) with them" (Karttunen 1977:174). Karttunen's somewhat impressionistic characterization might be reformulated in terms of the abductive-deductive model of language change originally explicated in Andersen 1973.

When language learners (chidren or adults) are confronted with perceived ambiguities in forms and constructions, they are forced to guess at the structure of a grammar that might produce such structures by means of an abductive inference. In such situations, we should not be surprised to find that speakers sometimes opt for a grammatical analysis for the ambiguous surface structure which happens to be consistent with that of obviously related forms where the structural analysis is unambiguous. We call that process analogy. Harris (1984) suggests that typological harmony plays a similar role in directing language change, once innovation is likely or inevitable. He characterizes phenomena like analogy and the tendency toward typological harmony as "gutters" that serve as pathways of least resistance, but which are in no way deterministic or causal (see also Jeffers 1985:252-53).

Some of the products of language contact in multilingual communities may also be understood in terms of this model. It seems quite reasonable that the rules/principles of the native grammar of a bilingual should play a similar role in his/her attempts to attach a grammatical analysis to actual language data of a second language. Many of the distinctive syntactic patterns of Irish English, for example, most likely reflect restructurings of this sort. (E.g., "I'm just after going"; "It's Sean that's going to Dublin"; etc. On Irish-English see Bliss 1972, 1977, 1979.) The Irish/English contact situation seems also to have produced novel constructions for Irish English, which cannot be explained in terms of restructuring produced by a straightforward reanalysis of English language data in terms of the principles of Irish grammar. See, for example, Kallen 1986 on "The co-occurrence of do and be in Hiberno-English".

Whether contact-induced change results in novel structures characteristic of neither contact language, or in restructurings that are the products of reanalysis of language data of one language in terms of the grammatical rules/principles of a second (i.e., the language learner's first) language, it now seems clear that contact situations can produce dramatic rearrangements of linguistic structure in one or a very few generations. The traditional claim of historical linguists about the natural resistance of languages to external change is quite simply not supported by actual studies of bi- and multilingual speakers, or of speech communities experiencing some sort of language shift. As Vincent points out in a study of the results of Celtic/English bilingualism in Ireland, England and Wales, "As far as syntax is concerned (emphasis RJJ),

there is growing evidence from second language learning and bilingualism that grammatical interference is rampant between source and target language and between dominant and non-dominant language" (1984:166).

Consider for a moment the implications of these claims about the diachronic consequences of language contact for investigations into the prehistory of the Indo-European language family. It must be assumed that the several Indo-European dialects represent, to a significant degree, products of the sorts of processes at work in contemporary multilingual speech communities. The early Indo-Europeans moved across Europe and Western Asia into existing speech communities representing a wide variety of indigenous languages. Consequently, we must at least entertain the hypothesis that many of the radical structural (even typological) differences that we confront within the Indo-European language family, in syntax and in other areas of grammar, reflect the sorts of massive disruptions that can occur in multilingual speech communities. As the IE parent language must have served as the target language in a wide variety of language shift situations, it seems entirely reasonable that many radical structural discrepancies among the descendants of early Indo-European, (such as verb-final properties in Indo-Aryan alongside verb-initial properties in Celtic) may be attributable to mechanisms of change similar to those that produced both novel and Celticized syntactic patterns in Irish, Cornish and Welsh English (Vincent 1986).

Students of linguistic prehistory should take heed. Much of the frustration generated by recent work on syntactic reconstruction (see, e.g., Lightfoot 1980) may result from attempts to construct hypotheses about the source language based on a narrowly defined notion of what constitutes a plausible diachronic account of an extant language. Studies of language shift and of the actual dynamics of language contact in bi- and multilingual speech communities clearly demonstrate that efforts to account for the diachronic relationships between a hypothetical source and its several extant reflexes cannot depend solely on the search for genuine correspondences and grammar internal motivations for change in syntactic systems, or, for that matter, in any other area of grammatical structure.

Notes

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1. There have, of course, been some important exceptions. Ergativity and agglutination, for example, have been proposed as properties of early or pre-Indo-European.

2. The several versions of the glottalic theory, which was initially explicated in Gamkrelidze and Ivanov 1972 and Hopper 1973, share the feature that glottalized stops replace the voiced unaspirated stops of the traditionally reconstructed system of obstruents. Several systematic anamolies can be accounted for by means of this reconception of early Indo-European phonology.

3. Some commentators do argue that the actual thought processes of members of highly literate speech communities are structured by the technology of writing, i.e., by their command of autonomous language. See, e.g., Olson 1980; Ong 1982.

4. Hermann admits the possibility that subordinate clause marking by means of accent is reconstructible for proto-Indo-European. Also, Meillet (1937) and others do point out that there is some evidence for reconstructing a class of non-finite verbals (see however, Jeffers 1976; Jeffers & Kantor 1984), and substantial evidence for reconstructing participles.

5. The last decade has witnessed the advent of the typological method (TM) for syntactic reconstruction in Indo-European studies, championed primarily by Winfred Lehmann (e.g., Lehmann 1974). This approach is much more open to positing for the parent language syntactic structures which are substantially different from those found in the extant languages. But, investigations within the framework of TM are also constrained by tacit assumptions about the range of structural devices for marking inter-clause syntax that represent viable candidates for reconstruction. The preoccupation with word order typology as a framework for the reconstruction of prehistoric syntax introduces into the process a new set of typologically based predispositions which may or may not be relevant in a particular case. Proponents of TM pose questions of the following sort (Lehmann 1980) to frame issues in syntactic reconstruction: "Does the evidence of the extant languages support the reconstruction of preposed or postposed relative clauses?" The options for early Indo-European are thereby reduced to one of two possibilities. This clearly represents a misguided approach to syntactic reconstruction, most notably because it disregards the fact that (incorporated) adnominal relative clauses are not absolute universals of language. (For additional discussion see Jeffers 1986.)

6. The earliest and most frequently cited characterization of adjunction is the discussion of multi-clause sentences in Australian in Hale 1976. Consider the following examples from Walbiri (after Hale 1976), in which the form kutja- (prefixed to AUX) marks the inter-clausal relationship. In a., the two clauses share a coreferential noun phrase; in b., they do not.

a. yankiri-li kutja-lpa ŋapa ŋa-ṇu ŋatjulu-lu ∅-na pantu-ṇu.
emu-ERG COMP-AUX water drink-Past I-ERG AUX spear-Past
"While the emu was drinking water, I speared it." or
"I speared the emu that was drinking water."

b. ŋatjulu-lu lpa-ṇa kaḷi tjaṇtu-ṇu, kutja-∅-npa ya-nu-ṇu njuntu.
I-ERG AUX boomerang trim-Past COMP-AUX walk-P-hither you.
"I was trimming a boomerang when you came up."

7. Additional examples from Sanskrit, as well as corresponding constructions from Homeric Greek and early Latin are given in Jeffers 1986.

8. For a more complete discussion of the etymology of Hittite -ia, see Watkins 1963; see also Jeffers 1986.

9. See Jeffers & Pepicello 1979 and Jeffers 1986 for a more complete discussion of the functional distinction between the Hittite particle -ia/-a and other sentence particles in Hittite and Indo-European.

10. Note further that inflected reflexes of *yo in Vedic Sanskrit and Homeric Greek do not, in fact, introduce embedded relative clauses of the sort familiar from the later classical languages (Note exx. (1) and (3) above). They function as topicalizers, announcing that a particular noun will be a predicate in the next clause. See Holland 1984 and Jeffers 1986 for additional discussion.

11. Compare this interpretation of the original function of the IE formative yo with the corresponding function of the Australian particle kutja- described by Hale and referred to in footnote 4 of this paper.

12. Much of the work on reconstruction of inter-clause syntax within the framework of the typological method (see fn. 5) confronts a similar problem. For example, an analysis of relative clauses that is constructed to determine whether there is evidence to support the reconstruction of prenominal or post-nominal relative clauses becomes an exercise in frustration, if the grammar of the source language turns out to be one that does not comprehend incorporated constructions of any sort.

13. Note, however, that the innovations in American Finnish and corresponding structures in Russian and Swedish Finnish do not reflect direct structural influence from the contact languages. They appear to exemplify developments of the sort described in Maher 1985 for enclave languages.

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